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## SECTION 15

### CONVERSION UNITS

15.1 Physical Constants and Conversion Factors. This section lists the preferred metric units, alternative units, and conversion factors for a number of commonly used quantities in the aerospace industry. The selection presented, while not intended to be restrictive, will prove helpful in presenting values of quantities in an identical manner in similar contexts within the industry.

The preferred metric units, alternative units, and conversion factors are presented and grouped according to the categories listed below. For convenience, tables 1 through 6 list the (1) SI base units, (2) supplementary units, (3) derived units, (4) acceptable non-SI units, (5) standard prefixes, and (6) definition for selected physical constants and non-SI units.

1. Space and Time
2. Mass
3. Force
4. Mechanics
5. Flow
6. Thermodynamics
7. Electricity and Magnetism
8. Light
9. Acoustics
10. SI Base and Supplementary Units
11. SI-Derived Units
12. Non-SI Units Accepted for Use With SI
13. Prefixes for SI Units
14. SI Definitions for Selected Physical Constants and Non-SI Units.

When the preferred unit appears without a prefix, multiples of that unit per table 15-5 may be used as necessary at the user's discretion. When a prefix appears with the unit, it is the preferred prefix. When the prefix is left to the user's discretion, however, units shall be consistent within any given document.

The conversion factors given are exact, unless the last digit is underlined. The level of error is 0.1 percent or less.

**TABLE 1. Preferred Metric Units.**

	Quantity	Preferred Metric Unit	Alternative Units	Conversion Factors
<b>1. SPACE &amp; TIME</b>				
1.1	Time	s (second)	min (minute) h (hour) d (day)	
1.2	Plane angle	rad (radian)	° (degree) ' (minute) " (second)	
1.3	Solid Angle	sr (steradian)		
1.4	Length	mm (millimeter)		1 in = 2.54 cm = 25.4 mm 1 ft = 0.3048 m = 304.8 mm 1 yd = 0.9144 m = 914.4 mm
1.4.1	Distance	km (kilometer)	nautical mile	1 statute mile = 1.609 344 km 1 nautical mile (US) = 1.852 km
1.4.2	Distance	m (meter)		1 in = 2.54 cm = 25.4 mm 1 ft = 0.3048 m = 304.8 mm 1 yd = 0.9144 m = 914.4 mm
1.4.3	Visibility	km (kilometer)		1 statute mile = 1.609 344 km
1.4.4	Altitude	m (meter)		1 ft = 0.3048 m
1.4.5	Vibration amplitude	mm (millimeter)		1 in = 25.4 mm
1.4.6	Porosity; surface texture; thickness of surface coating	µm (micrometer)		1 microinch = 0.0254 µm
1.5	Area	m <sup>2</sup> (square meter)		1 in <sup>2</sup> = 645.16 mm <sup>2</sup> = 6.4516 cm <sup>2</sup> 1 ft <sup>2</sup> = 0.092 903 04 m <sup>2</sup> 1 acre = 0.4047 hectare 1 sq. mile = 2.590 km <sup>2</sup>
1.6	Volume	m <sup>3</sup> (cubic meter)		1 in <sup>3</sup> = 16 387.064 mm <sup>3</sup> 1 ft <sup>3</sup> = 0.028 316 847 m <sup>3</sup> 1 yd <sup>3</sup> = 0.764 554 86 m <sup>3</sup> 1 gal (dry) = 0.004 405 m <sup>3</sup>
1.6.1	Fluid tank; water heating tank; high pressure oxygen	L (liter)	m <sup>3</sup> (cubic meter)	1 ft <sup>3</sup> = 28.317 L 1 gal (liquid) = 3.785 412 L 1 fl oz = 29.573 53 cm <sup>3</sup>

**TABLE 1. Preferred Metric Units (Cont'd)**

	Quantity	Preferred Metric Unit	Alternative Units	Conversion Factors
<b>2. MASS</b>				
2.1	Mass	kg (kilogram)		1 oz (avoir) = 28.349 52 g 1 lb (avoir) = 0.453 592 37 kg 1 long ton (2,240 lb) = 1016.047 kg 1 short ton (2,000 lb) = 907.1847 kg 1 long ton = 1.016 047 metric ton 1 short ton = 0.907 185 metric ton
2.1.1	Gross mass; payload	kg (kilogram)	t (tonne)	
2.1.2	Hoisting provision	kg (kilogram)	t (tonne)	
2.1.3	Cargo capacity	kg (kilogram)	t (tonne)	
2.1.4	Fuel capacity (gravimetric)	kg (kilogram)	t (tonne)	
2.2	Linear density	kg/m (kilogram per meter)		1 lb/ft = 1.488 16 kg/m 1 lb/yd = 0.496 055 kg/m
2.3	Density, concentration	kg/m <sup>3</sup> (kilogram per cubic meter)	g/L (grams per liter)	1 lb/in <sup>3</sup> = 27 679.9 kg/m <sup>3</sup> 1 lb/ft <sup>3</sup> = 16.018 46 kg/m <sup>3</sup> 1 short ton/yd <sup>3</sup> = 1186.5526 kg/m <sup>3</sup> 1 lb/gal = 119.8264 kg/m <sup>3</sup> 1 oz/gal = 8.489 152 kg/m <sup>3</sup>
2.3.1	Air density	kg/m <sup>3</sup> (kilogram per cubic meter)		1 slug/ft <sup>3</sup> = 515.379 kg/m <sup>3</sup>
2.3.2	Cargo density	kg/m <sup>3</sup> (kilogram per cubic meter)	t/m <sup>3</sup> (tonne per cubic meter)	
2.3.3	Gas density	kg/m <sup>3</sup> (kilogram per cubic meter)		
2.3.4	Liquid density	kg/m <sup>3</sup> (kilogram per cubic meter)	g/L (gram per liter)	
2.4	Ambient humidity	mg/g (milligram per gram)		
2.5	Balance moment	kg m (kilogram meter)	g mm (gram millimeter)	
2.6	Moment of inertia	kg m <sup>2</sup> (kilogram square meter)		1 lb in <sup>2</sup> = 2.9264x10 <sup>-4</sup> kg m <sup>2</sup> 1 lb ft <sup>2</sup> = 0.031 140 kg m <sup>2</sup>
2.7	Momentum	kg m/s (kilogram meter per second)		1 lb ft/s = 0.138 255 kg m/s
2.8	Moment of momentum	kg m <sup>2</sup> /s (kilogram square meter per second)		1 lb ft <sup>2</sup> /s = 0.042 140 kg m <sup>2</sup> /s

**TABLE 1. Preferred Metric Units (Cont'd)**

	Quantity	Preferred Metric Unit	Alternative Units	Conversion Factors
2.9	Floor loading	kg/m <sup>2</sup> (kilogram per square meter)	t/m <sup>2</sup> (tonne per square meter)	
2.10	Wing loading	kg/m <sup>2</sup> (kilogram per square meter)	t/m <sup>2</sup> (tonne per square meter)	
<b>3. Force</b>				
3.1	Force	N (newton)		1 lbf = 4.448 222 N
3.1.1	Handle operating load	N (newton)		
3.1.2	Jet and rocket engine thrust	kN (kilonewton)		
3.1.3	Rocket engine total impulse	N s (newton second)		
3.1.4	Rocket engine specific impulse	N s/kg (newton second per kilogram)		
3.2	Vacuum	Pa (pascal)		
3.3	Pressure	kPa (kilopascal)		1 psi = 6.894 757 kPa 1 in H <sub>2</sub> O (39.2 °F) = 0.249 08 kPa 1 in H <sub>2</sub> O (60 °F) = 0.248 84 kPa 1 in Hg (32 °F) = 3.386 39 kPa 1 in Hg (60 °F) = 3.376 85 kPa
3.3.1	Air pressure (general)	kPa (kilopascal)		1 atmos (std) = 101.325 kPa
3.3.2	Air pressure (meteorological)	kPa (kilopascal)		1 torr = 133.322 Pa = 0.133 32 kPa
3.3.3	Hydraulic pressure	kPa (kilopascal)		1 psi = 6.894 757 kPa
3.4	Stress	mPa (megapascal)		1 ksi = 6.894 757 mPa
3.4.1	Elastic limit; proportional limit; endurance limit	mPa (megapascal)		
3.4.2	Modulus of elasticity; Young's modulus; modulus of rigidity	mPa (megapascal)		10 <sup>6</sup> psi = 6894.747 mPa
3.5	Fracture toughness	mPa · m <sup>1/2</sup> (megapascal meter <sup>1/2</sup> )		1 ksi in <sup>1/2</sup> = 1.098 843 mPa · m <sup>1/2</sup>
3.6	Strain energy per unit volume	J/m <sup>3</sup> (joule per cubic meter)		

**TABLE 1. Preferred Metric Units (Cont'd)**

	<b>Quantity</b>	<b>Preferred Metric Unit</b>	<b>Alternative Units</b>	<b>Conversion Factors</b>
3.7	Torque; moment of force	N m (newton-meter)		1 in lbf = 0.112 984 <u>8</u> N m
3.8	Bending moment	N m (newton-meter)		1 in lbf = 1.355 81 <u>8</u> N m
3.9	Bending moment per unit length; torque per unit length	N m/m (newton-meter per meter)		1 lbf ft/in = 53.378 <u>66</u> N m/m 1 lbf in/in = 4.428 <u>222</u> N m/m
3.10	Stiffness	N/m (newton per meter)		1 lbf/in = 175.1 <u>27</u> N/m
3.11	Surface tension	mN/m (milli-newton per meter)		
<b>4. Mechanics</b>				
4.1	Section modulus	cm <sup>3</sup> (cubic centimeter)		1 in <sup>3</sup> = 16.387 064 cm <sup>3</sup>
4.2	Second moment of area	cm <sup>4</sup>		1 in <sup>4</sup> = 41.623 <u>1</u> cm <sup>4</sup>
4.3	Frequency	Hz (hertz)		
4.4	Rotational frequency	r/s (revolutions per second)	r/min (revolutions per minute)	
4.4.1	Rotational speed	r/min (revolutions per minute)		
4.5	Angular velocity	rad/s (radian per second)		
4.5.1	Rate of trim	°s (degree per second)		
4.6	Angular acceleration	rad/s <sup>2</sup> (radian per second <sup>2</sup> )		
4.7	Velocity	m/s (meter per second)	km/h (kilometer per hour)	1 ft/s = 0.304 8 m/s 1 mile/hour = 1.609 344 km/h
4.7.1	Air speed	km/h (kilometer per hour)		1 knot (US) = 1.853 <u>2</u> km/h
4.7.2	Land speed	km/h (kilometer per hour)		1 mile/hour = 1.609 344 km/h
4.7.3	Wind speed	km/h (kilometer per hour)	ms <sup>-1</sup> (meter per second)	1 mile/hour = 1.609 344 km/h
4.7.4	Vertical speed	m/s (meter per second)		1 ft/s = 0.3048 m/s 1 ft/min = 0.005 08 m/s

**TABLE 1. Preferred Metric Units (Cont'd)**

	Quantity	Preferred Metric Unit	Alternative Units	Conversion Factors
4.8	Linear acceleration	m/s <sup>2</sup> (meter per second <sup>2</sup> )		
4.9	Energy; work	J (joule)		1 ft lb/f = 1.355 818 J 1 hp H = 2.6845 mJ 1 kw H = 3.6 mJ
4.9.1	Kinetic energy absorbed by brakes	mJ (megajoule)		
4.10	Impact	J/m <sup>2</sup> (joule per square meter)		
4.11	Power	W (watt)		
4.11.1	Shaft power; equivalent shaft power	kW (kilowatt)		
<b>5. Flow</b>				
5.1	Mass flow	kg/s (kilogram per second)		1 lb/h = 0.000 125 998 kg/s 1 lb/min = 0.007 56 kg/s 1 lb/s = 0.453 59 kg/s
5.2	Gas flow	kg/s (kilogram per second)		
5.2.1	Ventilation air	g/s (gram per second)		
5.2.2	Gas leakage	m <sup>3</sup> /min (cubic meter per minute)		
5.2.3	Engine airflow	kg/s (kilogram per second)		
5.3	Liquid flow (gravimetric)	g/s (gram per second)		1 lb/min = 7.560 g/s
5.3.1	Fuel flow	g/s (gram per second)	kg/h (kilogram per hour)	1 lb/hour = 0.4536 kg/h 1 lb/s = 453.6 g/s
5.3.2	Fuel tank filling rate (gravimetric)	kg/min (kilogram per minute)		1 lb/min = 0.4536 kg/min
5.3.3	Fuel consumption	kg/h (kilogram per hour)		1 lb/hour = 0.4536 kg/h
5.3.4	Oil flow	L/min (liter per minute)		

**TABLE 1. Preferred Metric Units (Cont'd)**

	Quantity	Preferred Metric Unit	Alternative Units	Conversion Factors
5.4	Liquid flow (volumetric)	cm <sup>3</sup> /s (cubic centimeter per second)	L/s (liter per second)	1 in <sup>3</sup> /min = 0.273 cm <sup>3</sup> /s 1 U.S. gal/min = 0.063 08 L/s
5.4.1	Pump capacity; fuel tank filling rate (volumetric)	L/min (liter per minute)		1 U.S. gal/min = 3.785 L/min
5.4.2	Oil leakage	cm <sup>3</sup> /min (cubic centimeter per minute)		1 in <sup>3</sup> /min = 16.39 cm <sup>3</sup> /min
5.5	Viscosity (dynamic)	mPa s (millipascal second)		1 lb/ft s = 1.488 164 Pa s 1 lbf s/ft <sup>2</sup> = 47.880 26 Pa s
5.6	Viscosity (kinematic)	mm <sup>2</sup> /s (square millimeter per second)		1 ft <sup>2</sup> /s = 92 903 mm <sup>2</sup> /s
<b>6. Thermodynamics</b>				
6.1	Temperature	K (kelvin)	°C (° Celsius)	°C = (°F - 32)/1.8 K = °C + 273.15
6.1.1	Standard day temperature; ambient temperature	°C (° Celsius)		
6.2	Coefficient of linear expansion	K <sup>-1</sup> (kelvin <sup>-1</sup> )	°C <sup>-1</sup> (°Celsius <sup>-1</sup> )	
6.3	Quantity of heat	J (joule)		1 Btu (60 °F) = 1.05468 kJ
6.4	Heat flow per unit area	J/m <sup>2</sup> (joule per square meter)		
6.5	Heat flow rate	kW (kilowatt)		1 Btu/h = 0.293 071 W
6.5.1	Heat rate	mJ/kW h (megajoule per kilowatt hour)		1 Btu/(hp h) = 1.415 kJ/(kW h)
6.6	Density of heat flow rate	W/m <sup>2</sup> (watt per square meter)		1 Btu/(h ft <sup>2</sup> ) = 3.154 59 W/m <sup>2</sup>
6.7	Thermal conductivity	W/(m K) (watt per meter kelvin)		1 Btu-in/ft <sup>2</sup> ·h· °F = 0.144 23 W/(m K)
6.8	Thermal conductance	W/(m <sup>2</sup> K) (watt per square meter kelvin)		1 Btu/(ft <sup>2</sup> ·h· °F) = 5.678 26 W/(m <sup>2</sup> K)
6.9	Coefficient of heat transfer	W/(m <sup>2</sup> K) (watt per square meter kelvin)		

**TABLE 1. Preferred Metric Units (Cont'd)**

	<b>Quantity</b>	<b>Preferred Metric Unit</b>	<b>Alternative Units</b>	<b>Conversion Factors</b>
6.10	Thermal diffusivity	mm <sup>2</sup> /s (square millimeter per second)		
6.11	Thermal resistivity	m K/W (meter kelvin per watt)		
6.12	Thermal resistance	m <sup>2</sup> K/W (square meter kelvin per watt)		
6.13	Heat capacity	kJ/K (kilojoule per kelvin)		
6.14	Specific heat capacity	kJ/(kg K) (kilojoule per kilogram kelvin)		1 Btu/(lb °F) = 4.1868 kJ/(kg K)
6.14.1	Specific heat	kJ/(kg K) (kilojoule per kilogram kelvin)		
6.15	Entropy	kJ/K (kilojoule per kelvin)		1 Btu/°R = 1.8991 kJ/K
6.16	Specific entropy	kJ/(kg K) (kilojoule per kilogram kelvin)		1 Btu/(lb °R) = 4.1868 kJ/(kg K)
6.17	Gas constant	J/(kg K) (joule per kilogram kelvin)		1 ft lb/(lb °F) = 5.382 J/(kg K)
6.17.1	Molar gas constant	J/(mol K) (joule per mole kelvin)		R <sub>o</sub> = 8.3143 J/(mol K)
6.18	Specific energy	J/kg (joule per kilogram)		
6.18.1	Heating value; enthalpy	kJ/kg (megajoule per kilogram)		1 Btu/lb = 2326 J/kg
6.19	Specific latent heat	J/kg (joule per kilogram)		

**TABLE 1. Preferred Metric Units (Cont'd)**

	Quantity	Preferred Metric Unit	Alternative Units	Conversion Factors
<b>7. Electricity and Magnetism</b>				
7.1	Electric current	A (ampere)		
7.2	Current density	A/m <sup>2</sup> (ampere per square meter)		1 A/in <sup>2</sup> = 1.550 kA/m <sup>2</sup>
7.3	Dielectric strength	V/mm (volt per millimeter)		
7.4	Electric potential	V (volt)		
7.5	Electric field strength	V/m (volt per meter)		
7.6	Power	W (watt)		1 hp (550 ft lbf/s) = 0.7457 kW 1 hp (metric) = 0.7355 kW 1 hp (electric) = 0.746 kW
7.7	Power (apparent)	VA (volt ampere)		
7.8	Electric resistance; impedance; modulus of impedance; reactance	Ω (ohm)		
7.9	Resistivity	Ωm (ohm meter)		
7.10	Conductance; admittance; modulus of admittance; susceptance	S (siemens)		
7.11	Conductivity	S/m (siemens per meter)		
7.12	Quantity of electricity	C (coulomb)		1 Ah = 3,600.0 C
7.13	Electric capacitance	F (farad)		
7.14	Permittivity	F/mm (farad per millimeter)		
7.15	Self inductance; mutual inductance	H (henry)		
7.16	Permeance	H (henry)		
7.17	Reluctance	H <sup>-1</sup> (henry <sup>-1</sup> )		
7.18	Permeability	H/m (henry per meter)		
7.19	Magnetic flux	Wb (weber)		1 maxwell = 0.01 μWb
7.20	Magnetic flux density	T (tesla)		1 gauss = 0.1 MT
7.21	Magnetic field strength	A/m (ampere per meter)		1 oersted = 1,000/4π A/M
7.22	Electromagnetic moment; magnetic moment	A m <sup>2</sup> (ampere square meter)		
7.23	Electric dipole moment	(coulomb meter)		

**TABLE 1. Preferred Metric Units (Cont'd)**

	Quantity	Preferred Metric Unit	Alternative Units	Conversion Factors
<b>8. Light</b>				
8.1	Luminous intensity	cd (candela)		
8.2	Luminous Flux	lm (lumen)		
8.3	Luminous exitance	lm/m <sup>2</sup> (lumen per square meter)		
8.4	Illuminance	lx (lux)		
8.4.1	Cabin illumination	lx (lux)		1 ft candle = 10.764 lx
8.5	Luminance	cd/m <sup>2</sup> (candela per square meter)		1 foot lambert = 3.426 26 cd/m <sup>2</sup> 1 lambert = 3183.1 cd/m <sup>2</sup>
<b>9. Acoustics</b>				
9.1	Noise level; sound level	dB (decibel)		
9.2	Period; periodic time	s (second)		
9.3	Frequency	Hz (hertz)		
9.4	Wavelength	m (meter)		
9.5	Mass density	kg/m <sup>3</sup> (kilogram per cubic meter)		
9.6	Static pressure, instantaneous sound pressure	Pa (pascal)		
9.7	Instantaneous sound particle velocity	m/s (meter per second)		
9.8	Instantaneous volume velocity	m <sup>3</sup> /s (cubic meter per second)		
9.9	Velocity of sound	m/s (meter per second)		
9.10	Sound energy flux; sound power	W (watt)		
9.11	Sound intensity	W/m <sup>2</sup> (watt per square meter)		
9.12	Specific acoustic impedance	Pa s/m (pascal second per meter)		
9.13	Acoustic impedance	Pa s/m <sup>3</sup> (pascal second per cubic meter)		
9.14	Mechanical impedance	N s/m (newton second per meter)		

**TABLE 2. SI Base And Supplementary Units**

Quantity	Name	Symbol
<b>Base Units:</b>		
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Amount of substance	mole	mol
Luminous intensity	candela	cd
<b>Supplementary Units:</b>		
Plane angle	radian	rad
Solid angle	steradian	sr

**TABLE 3. SI Derived Units.**

Quantity	Name	Symbol	Derivation
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ s}^{-1}$
Force	newton	N	$1 \text{ N} = 1 \text{ kg m/s}^2$
Pressure; stress	pascal	Pa	$1 \text{ Pa} = 1 \text{ n/m}^2$
Energy; work; quantity of heat	joule	J	$1 \text{ J} = 1 \text{ N m}$
Power	watt	W	$1 \text{ W} = 1 \text{ J/s}$
Electric charge; quantity of electricity	coulomb	C	$1 \text{ C} = 1 \text{ A s}$
Electric potential; electromotive force	volt	V	$1 \text{ V} = 1 \text{ W/A}$
Electric capacitance	farad	F	$1 \text{ F} = 1 \text{ A s/V}$
Electric resistance	ohm	$\Omega$	$1 \Omega = 1 \text{ V/A}$
Electric conductance	siemens	S	$1 \text{ S} = 1 \text{ A/V}$
Magnetic flux	weber	Wb	$1 \text{ Wb} = 1 \text{ V s}$
Magnetic flux density; magnetic induction	tesla	t	$1 \text{ t} = 1 \text{ V s/m}^2$
Inductance	henry	h	$1 \text{ h} = 1 \text{ V s/A}$
Luminous flux	lumen	lm	$1 \text{ lm} = 1 \text{ cd sr}$
Illuminance	lux	lx	$1 \text{ lx} = 1 \text{ lm/m}^2$

**TABLE 4. Non-SI Units Accepted For Use With SI.**

Quantity	Name	Symbol	Definition
Time	minute	min	1 min = 60 s
	hour	h	1 h = 60 min = 3,600 s
	day	d	1 d = 24 h = 86,400 s
	week	wk	1 wk = 7 d
	month	mo	1 mo
	year	yr	1 yr = 365.26 days
Plane angle	degree	°	1° = ( $\pi/180$ ) rad
	minute	'	1' = (1/60) °
	second	"	1" = (1/60)'
Volume	liter	L	1 L = 1 dm <sup>3</sup> = 10 <sup>-3</sup> m <sup>3</sup>
Area	hectare	ha	1 ha = 1 hm <sup>2</sup> = 10 <sup>4</sup> m <sup>2</sup>
Pressure	bar	Bar	1 Bar = 10 <sup>5</sup> Pa
Energy	kilowatt-hour	kWh	1 kWh = 3.6 MJ
Temperature	degree Celsius	°C	
Mass	metric ton	t	1 t = 10 <sup>3</sup> kg

**TABLE 5. Prefixes For SI Units.**

Factor by Which the Unit Is Multiplied	Prefix		Factor by Which the Unit is Multiplied	Prefix	
	Name	Symbol		Name	Symbol
10 <sup>18</sup>	exa	E	10 <sup>-1</sup>	deci*	d
10 <sup>15</sup>	peta	P	10 <sup>-2</sup>	centi	c
10 <sup>12</sup>	tera	T	10 <sup>-3</sup>	milli	m
10 <sup>9</sup>	giga	G	10 <sup>-6</sup>	micro	μ
10 <sup>6</sup>	mega	M	10 <sup>-9</sup>	nano	n
10 <sup>3</sup>	kilo	k	10 <sup>-12</sup>	pico	p
10 <sup>2</sup>	hecto*	h	10 <sup>-15</sup>	femto	f
10 <sup>1</sup>	deka*	da	10 <sup>-18</sup>	atto	a

\* To be avoided where possible

**Table 6. SI Definitions For Selected Physical Constants And Non-SI Units**

Unit	SI Equivalent
Angstrom unit (Å)	10 <sup>-10</sup> meter
Micron (μ)	10 <sup>-6</sup> meter
Light year	9.460 55 x 10 <sup>12</sup> kilometer
Speed of light	299,792.4580 ± 0.0012 kilometer per second
Speed of sound (sea level US76)	340.294 meter per second
Gravitational constant (G <sub>N</sub> )	9.806 65 newton-meter/kilogram-second <sup>2</sup>
Centistoke	10 <sup>-6</sup> square meter/second

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